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APPLICANT: DAVID ROTH et al.)
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FOR: VERSATILE COMMUNICATIONS)
CONNECTORS)
)

INFORMATION
DISCLOSURE
STATEMENT UNDER 37
C.F.R. § 1.97

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Please find, pursuant to 37 C.F.R. § 1.98(a)(1), the enclosed Form PTO-1449 which contains a list of patents, publications, or other items that have come to the attention of one or more of the individuals designated in 37 C.F.R. § 1.56(c). Applicant respectfully invokes the Patent Office's obligation under 37 C.F.R. § 1.97 to consider these references and make them of record in the above-captioned application. While no representation is made that any of these references may be "prior art" within the meaning of that term under 35 U.S.C. §§ 102 or 103, the enclosed list of references is disclosed so as to fully comply with the duty of disclosure set forth in 37 C.F.R. § 1.56.

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Moreover, while no representation is made that a specific search of office files or patent office records has been conducted or that no better art exists, the undersigned attorney of record believes that the references listed, together with any other references which may have been previously cited by or submitted to the Office, are the closest to the claimed invention (taken in its entirety) of which the undersigned is presently aware, and no art which is closer to the claimed invention (taken in its entirety) has been knowingly withheld.

In accordance with 37 C.F.R. §§ 1.97 and 1.98, a copy of each of the listed references or relevant portion thereof is also enclosed.

Statement of Relevance of References Listed
Unaccompanied by English Translation
Under 37 C.F.R. § 1.98(a)(3)

In accordance with 37 C.F.R. § 1.98(a)(3), the following concise explanation of the relevance of each listed references not in the English language or unaccompanied by a translation into English is provided. Most explanations provided below are English language abstracts for the references, provided by third parties. Additional explanation is provided where the abstract is insufficient to explain the relevant of the patent cited.

Each referenced patent concerns an electrical connection, involving a connector and a receptacle for the connector, and may therefore be relevant to an examination of the claims of the present application.

Japanese Patent 6-52923

A hole 38 is provided on a platelike member 34 to insert a casing part 40 in one side opening part of the hole 38. A modular jack is inserted from an opening part reverse to an opening part on which the casing part 40 is provided. At that time, an insertion direction is

controlled with the inner wall of the hole 38 or the inner wall 42 of the casing part 40, pushing is stopped with the bottom part 18 of the casing part 40, and returning is stopped with the locking part provided on the vicinity of a modular jack insertion side opening part to electrically connect the casing part 40 to a modular jack with an electrode part 42. Operation is performed by one action with a spring 54.

Japanese Patent 6-61658

A hole 36 made through a planar member 34, especially the bottom part thereof, stops insertion of a modular jack. The inner wall 16 defines the inserting direction of the modular jack and an electrode part 24 disposed in the hole 36 establishes an electrical connection. A cover 30 for that hole stops the modular jack at a predetermined position. The cover 30 is housed in the hole 36 under closed state and allows insertion of the modular jack into the hole 36 to be engaged in place under open state. Since a modular connector 26 is constituted of the planar member 34, it can be employed in an IC card, or the like, where the thickness is limited.

Japanese Patent 6-61659

A cover 30 for a hole 36 made through a planar member 34 is housed in the hole under closed state while allowing insertion of a modular jack into the hole 36 to be engaged in place under open state. Since a modular connector 26 is constituted of the planar member 34, it can be employed in such as an IC card where the thickness is limited. A protrusion 42 provided on the cover 30 and protrusions 42, 46 provided on the planar member 34 held open cover state and/or closed cover state thus protecting the cover 30 against breakdown and enhancing availability.

Japanese Patent 3-36477

It appears that the purpose of this patent is to prevent unnecessary electrical interference from being produced between an upper layer circuit and a lower layer circuit by shielding an electromagnetic field with a conductor layer by laminating said circuits with said conductor layer held between those circuits, said conductor layer being earthed keeping its state where it is insulated from parts of said circuits other than at least earthed portion of the same. The reference discloses that circuits 2a, 2b or semiconductor substrates 1a, 1b are laminated with a conductor layer 7 held therebetween, the conductor layer 7 being earthed in its state where it is isolated from portions of said circuits other than at least earthed portions of the same. Accordingly, also when the circuit is

operated in a microwave range, there are provided between the respective circuits and the earthed conductor layer 7 an electromagnetic field due to a current flowing through the upper layer circuit 2a and an electromagnetic field due to a current flowing through the lower layer circuit 2b. Hereby, there is eliminated electrical interference between the upper layer circuit 2a and the lower layer circuit 2b, and the upper and lower layer circuits 2a and 2b are connected at a connection line 4 so that desired operation is achieved as a whole. Hereby, there can be eliminated unnecessary electrical interference between the upper and lower layer circuits upon use in a microwave range.

Japanese Patent 3-262069

The patent teaches a paging accessory 10 with a card edge connector 16 for an accessory port 15 of a portable computer device 12 such as an electronic scheduler. Support board 14 connects to card edge connector 16. Accessory port 15 forms a plug-in card module in its connection with card edge connector 16. Connector 16 sends command, data and electric signals between portable computer device 12 and paging accessory 10. Contained within housing 21 are a control means, a memory, keyboard 18, display screen 20 and a speaker (not shown). Accessory port 15 contains one or more slot-like receptacles. An advantage of paging accessory 15 is its relatively small size due to the possibility of utilizing the power source, memory, speaker and display screen 20 of portable computer device 12. A modem 22 can be attached to the paging accessory 10. Details of the modem connection means to a phone line, i.e. angled aperture having contact wires therein, are not disclosed.

Japanese patent 62-78656

The patent teaches a modem and NCU board detachably attached to a personal computer. The board has a modular plug to be connected to a telephone or phone line. Details of the means of attachment between the modem, NCU board and the personal computer are not disclosed. The purpose of the disclosed subject matter is to attain the free use of a telephone even though a personal computer is powered on by using a changeover switch to perform a switching action between a public circuit and a modem. The reference discloses a power supply applied to a personal computer and a modem 20a connected to a public circuit 21 via a changeover switch 20d. Under such conditions, the data on the converted MH codes can be transmitted to a facsimile equipment at the remote site. While a telephone set 30 can be used as an ordinary telephone by switching the circuit 21 to the set 30 by the switching action of the switch 20d while a power supply is continuously applied to the personal computer.

Japanese Patent 62-29344

The patent teaches a PCB modem card for an option slot of a personal computer. The card has a modem, an auto-dial device, a control device, and an NCU which connects with telephone lines. The conception is said to increase reliability through the elimination of reliance on an RS232C interface and lessen cost through coupling of a modem and NCU. The purpose of the disclosed subject matter is to save mounting space and to attain an inexpensive communication means by eliminating an interface and incorporating a communication control LSI, a modem and a NCU into a personal computer. The reference discloses a personal computer main body 1 and a conventional telephone set 2 are connected to a conventional telephone line 3. An SIO 41, a modem 42, a NCU 43, a control section 44 and an automatic dial section 45 constitute a multi-function modem card 4 and the card 4 is mounted to an option slot of the main body 1. In this case, the SIO 41 and the control section 44 are connected to the personal computer main body via a CPU bus 11. A micro CPU 12 controls the entire multi-function modem 4 according to the software stored in a ROM 13 and a RAM 14 and the NCU 43 is switched by depressing the special key. Thus, an inexpensive communication means not requiring much space is obtained.

Japanese Patent 3-292519:

The patent teaches a laptop personal computer with a modem slot on the side of the laptop computer, enabling an overall reduction in laptop computer length. The purpose of the disclosed subject matter is to reduce the depth of a personal computer in order to improve its portability by providing a modem store part to the inside of the side part of the computer main body. The reference discloses a modem store part 20 is provided inside the left side part of a main body part 2 in order to store an attachable/detachable card type exclusive modem. In an application of the exclusive modem, the modem is loaded into the part 20 and an RS-232C connector is attached for use of a general external modem. Both exclusive and external modems are never used at one time and therefore no operating problem is produced in such a constitution. Thus the part 20 is provided at the inside of the side part of the part 2 together with a battery chamber 14 provided between a pair of hinge parts 6a and 6b. Therefore these hinge parts are provided at the utmost rear part of a computer device. As a result, the overall depth of the computer can be reduced together with its portability.

Japanese Patent 2-162667

The patent teaches a modular jack with a spring contact formed integrally with a thin, molded insulation board. The purpose of the disclosed subject matter is to reduce a number of assembling manhour and production cost by providing a conductor pattern on one plane or three-dimensionally and forming a part thereof integrally with an insulator to form a molded board part and thereafter bending a part of the conductor pattern and inserting it into a housing to carry out assembling. The reference discloses a conductor pattern 1; which is a stamped spring material, is provided on one plane or three-dimensionally, and an insulator 2 is integrally molded on the conductor pattern to form a molded board part A. A leg 1A of this board part A is used for connection with the board, and a spring contact 1b, and a hole C in a part of the conductor pattern 1 are provided, and an exposed part 2b is used as a mounting pad for a functional part and is also utilized for lead wire mounting. The contact, etc., of this board part A are bent beforehand and inserted into a housing 3 to assemble a modular jack, and a terminating function noise killer 4 is soldered to a hole 1c at the half way part of the conductor pattern 1.

Japanese Patent 4-51761

A communication board for an I/O slot of a personal computer is disclosed. The communication board has a modem and connectors for telephone lines. This patent teaches a means for automatic dialing through controlled matching of command formats. However, no details are provided regarding the media connection means. The purpose of the disclosed subject matter is to improve the processing performance in automatic dial processing by sending a parameter request command in either a command format of a character synchronizing form or of a frame synchronizing form to a network controller and discriminating a command format with a dip switch based on the result of reply. The reference discloses that prior to the automatic dial processing, a dial number is stored separately in work areas depending on two command formats of character synchronizing form and frame synchronizing form (S5). Then a parameter request command is published in the character synchronizing form (S6). The setting state of the command format by a dip switch of a network controller is discriminated from the result of reply (S7). When an interrupt of reception data read enable takes place, the automatic dial processing is implemented in the character synchronizing form (S8) and when the interrupt does not take place, the automatic dial processing is implemented in the frame synchronizing form (S9). Thus, the processing performance of a device such as an intelligent modem is improved.

Japanese Patent 4-10748

This patent teaches a modem comprising a first and second metal circuit board, resin casing, lead, hybrid IC, modular jack, bus connector, line transformer, and a socket for connecting said hybrid IC, ROM and dip switch. The purpose of the disclosed subject matter is to enable a modem unit to easily correspond to the change of its standard and to make it unnecessary to prepare specific shielding structure by using a hybrid IC constituted of mounting a DTE interface, a microcomputer, a modem circuit, etc., on metallic circuit board and a metallic base plate provided with common circuit parts to constitute the modem. The reference discloses that the modem unit is constituted of a hybrid IC 10 obtained by mounting the DTE interface, the microcomputer, the modem circuit, a transmitting amplifier, a receiving amplifier, and a dialer on the metallic circuit board 12 and the metallic base plate 20 provided with a modular jack, a light transformer, a bus connector, a ROM, and structure for connecting the hybrid IC. Namely, the circuit parts common to the modems of all standards are formed on the base plate 20 and the modem hybrid IC 10 to be prepared in each modem standard is mounted on the base plate 20. Consequently, the modem unit can be allowed to correspond to the request of any modem standard with proper performance and the preparation of specific shielding structure is made unnecessary.

Japanese Patent 1-96055

A modem card board for a point of sales register is disclosed. The modem card has a back panel in which a communication connector for a communication cable is provided. As this patent involves telephone connections to a machine with slotted coupling devices, the patent may be relevant.

Japanese Patent 1-97652

A modem cartridge 10 for a TV game computer is disclosed. The cartridge comprises modular sockets 11 and 12 on a side thereof for a phone line and telephone set. As this patent involves connections between various machines using RJ type connectors that couple to slotted couplers, this patent may be relevant.

German Patent Publication No. 1195385

This reference appears to disclose in the figures thereof components capable of being interconnected to establish electrical contact. The embodiment disclosed in Figure 3 appears to use

a spring to bias the connectors in an upward connection. This German patent may therefore be relevant to an examination of a covering over the end of an electrical connection.

European Patent Publication No. 0355413

This reference discloses a plug socket that has a casing (1) incorporated in the wall surface, containing a pivoted element (4) housing the socket contacts (6) for an electric plug. The pivoted element is contained within the casing when not in use, so that its front face (4a) lies flush with the wall surface and is pivoted out from the casing to allow access to the plug sockets (6). Pref. the pivoted element (4) is pivoted about the bottom edge of the casing with respective stops defining its stowed and working positions. Advantages of the invention are good safety characteristics and aesthetic appearance.

Japanese Patent 64-10585

Relates to securing insulation distance between terminals so as to reduce the size of a printed wiring board by providing a cylindrical cover member consisting of insulating matter and with a bottom through which a terminal for external connection is inserted for covering the circumference of the terminal for external connection with a distance from it. In a printed wiring board 1 is soldered a terminal 3 for external connection for electrically connecting an external power source with the board 1 at a solder 1a. The terminal 3 is covered with a cover member 7 of a cylindrical form consisting of insulating matter covering the circumference of the terminal 3 and having a bottom 9 through which the terminal 3 penetrates. The board 1 is contained in a case after members 7 are put to cover the terminals 3, and it is sealed by insulating resin 5. A relay terminal 6 with insulating cover is inserted into the terminal 3. If the pitch between the terminals 3 is small, therefore, insulation distance and surface distance can be sufficiently secured, and the terminal distance can be sufficiently secured, and the terminal 6 can be inserted from the side of the resin 5 down, thereby a printed wiring board can be made more compact.

Japanese Patent No. 8-162233

Purpose: To prevent deformation or breakage of a PCMCIA card caused by weight of documents or the like placed by mistake on the rear part of the PCMCIA card extruding from information processing terminal equipment. Constitution: The tip of a PCMCIA card 3 is inserted into a card slot 2 to be electrically connected with information processing terminal equipment 1 for

mounting. When the rear part of the PCMCIA card 3 is inserted between fixing means 8 of a connector 7, rear both sides of the PCMCIA card 3 are fixed with the fixing means 8, and supported at the same height of the card slot 2 of the information processing terminal equipment 1 by the connector 7.

German Patent No. DE 296 07 724 U1

Adaptation/accessory slot for PCMCIA and an EDV combined system comprising a PCMCIA card (9) having at one end a computer connection means (3) and the other side of which (4) contains controller means, driver means and/or memory/storage means (10) including at least three connection means (5) on a front (foremost) surface

Submission Fee
Under 37 C.F.R. § 1.97(c)

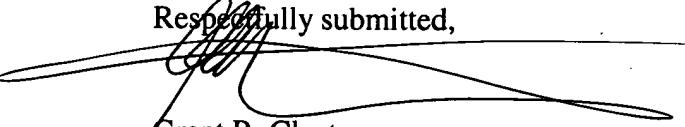
In accordance with 37 C.F.R. § 1.97(c), a check in the amount of \$240.00 to cover the submission fee is enclosed to secure consideration of the references submitted with this Information Disclosure Statement.

In accordance with 37 C.F.R. §§ 1.97 and 1.98, a copy of each listed reference (or relevant portion thereof) which was not previously submitted to, or cited by, the Patent Office is also enclosed.

Please charge any additional fees or credit any overpayment to Deposit Account No. 50-0836.

DATED this 11 day of Nov, 1999.

Respectfully submitted,


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